ABSTRACT

A clock recovery circuit for synchronizing a clock signal having frequency of approximately f0 with an optical data signal having a frequency of N × f0, where N is an arbitrary rational number, includes a local oscillator for generating the clock signal, a sampler for producing an output signal indicative of a phase difference between the clock signal and the optical data signal, an optical detector coupled to detect the output signal as an electrical signal, and a mixer for isolating at least one harmonic of the electrical signal and for downconverting the at least one harmonic to a baseband error signal. The local oscillator is tuned in response to the baseband error signal to synchronize the clock signal with the optical data signal.